

T. gracilis is indeed less differentiated in most points than *T. callipygus*; the essential features of the genus are present, but in the structure of the arms and general shape of the cup the form before us is closely connected with the ordinary Dendrocinite type.

EXPLANATION OF PLATE I.

A. *Thenarocrinus callipygus*, Bather.

- Fig. 1.* 57478 *b*, B. M. Previously figured *Ann. & Mag. Nat. Hist.* ser. 6, vol. vi. pl. x. fig. 5. This shows the tegminal plates, which were not rendered by the lithographer, and the broad ventral sac. (Nat. size.)
- Fig. 2.* 57478 *a*, B. M. Previously figured *loc. cit.* fig. 3. Shows fine branching of arms, a few tegminal plates, and, on the left, the base of the ventral sac; in the stem is seen the trace of a radial suture. (Nat. size.)
- Fig. 3.* Mr. C. B. Ketley's specimen. Shows anal area and base of ventral sac. Distally the arms are somewhat broken, disordered, and rubbed. The lower part of the cup is damaged by fracture. (Nat. size.)

B. *Thenarocrinus gracilis*, sp. nov.

- Fig. 4.* Specimen in York Museum. (Nat. size.)
- Fig. 5.* The lower part of the same outlined to show arrangement of plates and stem-ossicles. ($\times 4$)

IV.—*List of Lepidoptera in a Collection made by Emin Pasha in Central Africa.* By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

THE present collection consists of eighty species, chiefly of Rhopalocera; only two of the species appear to be actually new to science, although several others have only been described comparatively recently.

By far the greater number of the recognized species are identical with forms found in South Africa, and in all cases where closely allied representative forms occur in the south and west, the southern form is the one represented in the present collection; the eastern element is very slightly indicated.

R H O P A L O C E R A.

Nymphalidæ.

1. *Tirumala petiverana*.

Danaïa timniace, var. *petiverana*, Doubleday, *Gen. Diurn. Lep.* pl. xii. fig. 1 (1847).

Three male examples : Njangabo, 29th April, 4200 feet ; Kiriamo, 16th May, 2900 feet.

2. *Amauris dominicanus*.

Amauris dominicanus, Trimen, Trans. Ent. Soc. 1879, p. 323.

6 ♂, 7 ♀, Njangabo, Kanderá, and Ngúru, in April, October, and November.

3. *Limnas chrysippus*.

Papilio chrysippus, Linnæus, Mus. Lud. Ulr. p. 263 (1764).

♀, Kiriamo, 16th May ; ♂, Kissakka, 16th June ; Unyanywézi, 14th October ; Kanderá.

Var. *alcippoides*.

Limnas alcippoides, Moore, Proc. Zool. Soc. 1833, pl. xxxi. fig. 1.

♀, Njangabo, 4th May, 4200 feet.

Var. *dorippus*.

Euplœa dorippus, Klug, Symb. Phys. pl. xlvi. figs. 1-4 (1845).

♀, Ngúru, in November.

Var. *Klugii*.

Limnas Klugii, Butler, Proc. Zool. Soc. 1885, p. 758. n. 2.

4 ♂, 2 ♀, Mpwapwa, 12th, 18th, and 20th November ; 2 ♂, 4 ♀, Kanderá and Ngúru, October and November.

From the examples above recorded it would seem that the races of the *L. chrysippus*-group are not specifically separable in Central Africa.

4. *Melanitis solandra*.

Papilio solandra, Fabricius, Syst. Ent. p. 500. n. 244 (1775).

Kassari, 13th July ; Viaruha, 23rd July ; Kanderá and Ngúru, October and November 1889.

5. *Gnophodes parmeno*.

Gnophodes parmeno, Doubleday, Gen. Diurn. Lep. pl. lxi. fig. 2 (1851).

♀, Ngúru, November.

6. *Mycalesis eusirus*.

Mycalesis eusirus, Hopffer, Ber. Verh. Ak. Berl. 1855, p. 641.

Kanderá and Ngúru, October and November.

7. *Ypthima itonia*.

Ypthima (sic) *itonia*, Hewitson, Trans. Ent. Soc. ser. iii. vol. ii. p. 287, n. 11, pl. xviii. fig. 13 (1865).

Buguéra, 5400 feet, 17th March, 1889.

8. *Ypthima albida*.

Ypthima albida, Butler, Proc. Zool. Soc. 1888, p. 59. n. 14.

Buguéra, 5400 feet, 17th March, 1889.

9. *Charaxes Hansalii*.

Charaxes Hansalii, Felder, Reise der Nov., Lep. iii. pl. lix. figs. 3, 4.

Kandera and Ngúru, October and November.

10. *Charaxes Bohemani*.

Charaxes Bohemani, Felder, Wien. ent. Mon. iii. pl. vi. fig. 3 (1859).

Kandera, October.

11. *Charaxes jocaste*.

Charaxes jocaste, Butler, Proc. Zool. Soc. 1865, p. 623.

Kandera, October.

12. *Charaxes Kirkii*.

♀. *Charaxes Kirkii*, Butler, Ent. Month. Mag. xviii. p. 105 (1881).

♂. Butler, Proc. Zool. Soc. 1888, p. 60.

Kandera, October.

13. *Palla varanes*.

Papilio varanes, Cramer, Pap. Exot. ii. pl. clx. D, E (1779).

Waramba village, 2 hours from Semliki River; Njangabo, 4200 feet, 29th April; Kandera and Ngúru, October and November.

14. *Hypolimnias misippus*.

Papilio misippus, Linnæus, Mus. Lud. Ulr. p. 264 (1764).

2 ♂, Ngúru, November.

15. *Euralia marginalis*.

Euralia anthedon, var. *marginalis*, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xvi. p. 395 (1875).

♂, Kandera, in October.

16. *Euryphene neophron*.

Romaleosoma neophron, Hopffer, Ber. Verh. Ak. Berl. 1855, p. 640.

♂, Kandera.

17. *Euryphene achlys*.

Harna achlys, Hopffer, Ber. Verh. Ak. Berl. 1855, p. 641.

♀, Kandera.

18. *Ham anumida daedalus*.

Papilio daedalus, Fabricius, Syst. Ent. p. 482. n. 174 (1775).

Viaruha, 23rd July; Ussambiro, 8th September; Unyamwézi, 13th to 22nd October; Ussagara, 18th November, 1889.

19. *Euxanthe Crossleyi*.

Godartia Crossleyi, Ward, Ent. Month. Mag. viii. p. 36 (1871).

Kandera.

20. *Junonia clelia*.

Papilio clelia, Cramer, Pap. Exot. i. pl. xxi. E, F (1775).

Kandera and Ngúru, October and November.

21. *Junonia boöpis*.

Junonia boöpis, Trimen, Trans. Ent. Soc. 1879, p. 331.

Ussagara, 18th November, 1889.

22. *Junonia natalica*.

Precis natalica, Felder, Wien. ent. Mon. iv. p. 106. n. 65 (1860).

Kandera.

23. *Junonia orthosia*.

Vanessa orthosia, Klug, Symb. Phys. pl. xlviii. figs. 8, 9 (1845).

Njangaba, 29th April, 1889, 4200 feet.

A shattered example of *Pyramis cardui* was obtained at Kandera.

24. *Salamis cacta*.

Papilio cacta, Fabricius, Ent. Syst. iii. i. p. 116. n. 356 (1793).

Kandera.

25. *Protogoniomorpha definita*.

Salamis definita, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. iv. p. 230 (1879).

Waramba village, 2 hours from Semliki River; Kandera and Ngúru.

26. *Protogoniomorpha anacardi*.

Papilio anacardi, Linnæus, Mus. Lud. Ulr. p. 236 (1764).

Njangabo, 4200 feet, 24th April; Bukóko, 3rd June, Waramba village, 2 hours from Semliki River.

27. *Crenis madagascariensis*?

Crenis madagascariensis, Boisduval, Faun. Mad. p. 48 (1833).

Buguéra, on the slope of the hills, 5400 feet, 17th March, 1889.

It is possible that the single example obtained may represent a distinct species, but on such slight evidence it would be unwise to separate it.

28. *Atella columbina*.

Papilio columbina, Cramer, Pap. Exot. iii. pl. cccxxviii. A, B (1782).

♀, Buguéra, 4800 feet, 22nd March, 1889.

29. *Hypanis polinice*.

Papilio polinice, Cramer, Pap. Exot. iv. pl. cccxxv. G, H.

♂ ♀, Ussagara, 12th and 20th November; ♂ ♀, Ngúru. Six specimens were obtained.

30. *Hypanis goetzius*.

Papilio goetzius, Herbst, Natursyst. Schmett. ix. pl. cclviii. figs. 1-4 (1798).

♂, Ussagara, 20th November; ♂ ♀, Ngúru. Seven specimens were obtained.

31. *Neptis agatha*.

Papilio agatha, Cramer, Pap. Exot. iv. pl. cccxxvii. A, B (1782).

2 ♂, Buguéra, 17th March, 4800 feet; Njangabo, ♂, 4th, ♀, 29th May, 4200 feet; ♀, Kandera, October.

The last-mentioned female is unusually large and has the white band of the primaries divided by a black third median branch; in all other particulars it corresponds with ordinary examples.

32. *Telchinia Buxtoni*.

Acræa Buxtoni, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xvi. p. 395 (1875).

♂ ♀, Kandera.

33. *Telchinia oncæa*.

Acræa oncæa, Hopffer, Ber. Verh. Akad. Berl. 1855, p. 649.

Htikua brook, Unyamwézi, 21st October; Msaka brook, 22nd October; Masvéa, Ugógo, 8th November, 1889.

34. *Telchinia cæcilia*.

Papilio cæcilia, Fabricius, Sp. Ins. ii. p. 34. n. 142 (1781).

Kandera and Ngúru, October and November.
One of the females is a melanistic aberration.

35. *Telchinia natalica*.

Acræa natalica, Boisduval, Voy. Deleg. ii. p. 590 (1847).

Kandera and Ngúru, October and November.

Lycænida.

36. *Teriomima? hildegarda*.

Teriomima? hildegarda, Kirby, Ann. & Mag. Nat. Hist. ser. 5, vol. xix. p. 367 (1887).

♂, Kandera.

I fail to see how this differs from *D'Urbania aslauga*, Trimen; in any case it is the male of the insect figured by Kirby.

37. *Polyommatus bæticus*.

Papilio bæticus, Linnæus, Syst. Nat. i. 2, p. 789. n. 226 (1767).

♂, Ngúru.

38. *Catochrysops osiris*.

Lycæna osiris, Hopffer, Ber. Verh. Ak. Berl. 1855, p. 642.

♀, Ngúru.

39. *Azanus amarah*.

Polyommatus amarah, Guérin, Lef. Vov. Abyss. vi. p. 384, pl. xi. figs. 5, 6 (1847).

Kandera.

40. *Tarucus pulcher*.

Lycæna pulchra, Murray, Trans. Ent. Soc. 1874, p. 524, pl. x. figs. 7, 8.

Njangabo, 29th April; Itikua brook, Unyamwézi, 21st October; Msaka, 22nd October; Kandera, October.

41. *Zizera knysna*.

Lycæna knysna, Trimen, Trans. Ent. Soc. ser. iii. vol. i. p. 232 (1862).

Ngúru, in November.

42. *Myrina ficedula*.

Myrina ficedula, Trimen, South Afr. Butt. ii. p. 141 (1887).

Kandera, October.

Papilionidæ.

43. *Terias zoë*.

Terias zoë, Hopffer, Ber. Verh. Ak. Berl. 1855, p. 640.

2 ♂, Ngúru, November; 2 ♀, Mpwapwa, Ussagara, 12th November.

44. *Terias senegalensis*.

Terias senegalensis, Boisduval, Faun. Madag. p. 672. n. 31 (1836).

Kiriamó, 16th May, 2900 feet.

45. *Terias chalconiæta*.

Terias chalconiæta, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. iii. p. 190. n. 10 (1879).

Buguéra, 4800 feet, 22nd March; Njangabo, 4200 feet, 16th April and 4th May, 1889.

46. *Terias regularis*.

Terias regularis, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xviii. p. 486 (1876).

Buguéra, 4800 feet, 22nd March, 1889.

47. *Teracolus maimuna*.

Idmais maimouna, Kirby, Proc. Roy. Dubl. Soc. ii. p. 337 (1880); Aid, iii. pl. cxliii. (1884).

Kandera.

48. *Teracolus aurigineus*.

Teracolus aurigineus, Butler, Ann. & Mag. Nat. Hist. ser. 5, vol. xii.
p. 103 (1883).

♀, Kandra.

49. *Teracolus bacchus*.

Teracolus bacchus, Butler, Proc. Zool. Soc. 1888, p. 73. n. 94.

♂, Kandra.

50. *Teracolus imperator*.

Teracolus imperator, Butler, Proc. Zool. Soc. 1876, p. 132. n. 20.

♂, Kandra.

51. *Teracolus anax*.

Callosune anax, H. G. Smith, Ann. & Mag. Nat. Hist. ser. 6, vol. iii.
p. 125 (1889).

6 ♂ and 1 ♀, Kandra and Ngúru, October and November.

52. *Teracolus hyperides*.

Teracolus hyperides, Butler Proc. Zool. Soc. 1876, p. 149. n. 76.

♂, Kandra.

53. *Teracolus laura*.

Teracolus laura, E. Sharpe, Ann. & Mag. Nat. Hist. ser. 6, vol. v. p. 441
(1890).

♂, Kandra.

54. *Teracolus Trimenii*.

Teracolus Trimenii, Butler, Proc. Zool. Soc. 1876, p. 150. n. 79.

♀, Kandra.

55. *Teracolus omphale*.

Pieris omphale, Godart, Enc. Méth. ix. p. 122. n. 12 (1819).

♂, Kandra.

56. *Teracolus Emini*, sp. n.

♂. Nearest to *T. eione*; rather larger; the costal and external borders of the primaries more broadly blackish, the veins towards outer margin more distinctly black; the apical patch of a paler orange; the bifid blackish spot on the lower radial interspace larger: secondaries with the blackish costal

border less distinct, diffused; the external border broader, only showing two white spots towards costa on the subcostal interspaces, all the other spots being obliterated. Under surface much whiter, without the yellow tint on the secondaries.

Expanse of wings 43 millim.

♂, Kandera.

57. *Catopsilia florella*.

♀. *Papilio florella*, Fabricius, Syst. Ent. p. 479. n. 159 (1775).

♂, Kasari (Nkole), 13th July; ♀, Hapiringa, Unyamwézi, 14th October; ♂, Mpwapwa, Ussagara, 12th November; Mikesse, Ussagara, 29th November; ♂ ♀, Kandera and Ngúru, October and November 1889.

58. *Catopsilia pyrene*.

Colias pyrene, Swainson, Zool. Ill. 1st ser. pl. li. (1820-21).

♂, Gombe ja Ikungu, Unyamwézi, 17th October; Usaka, 22nd October; Kapaláta, Ugógo, 25th October; ♂ ♀, Mpwapwa, Ussagara, 12th November; ♀, Muini, Ussagara, 18th November; ♂, Udéva, 20th November; Mikesse, 29th November, 1889; ♂ ♀, Kandera and Ngúru, October and November.

59. *Glutophrissa contracta*.

Glutophrissa contracta, Butler, Proc. Zool. Soc. 1888, p. 75. n. 102.

2 ♂, Kandera in October.

60. *Belenois thysa*.

Pieris thysa, Hopffer, Ber. Verh. Ak. Berl. 1855, p. 639.

♀, Kiriamo, 15th May; ♂ ♀, Waramba village, 2 hours from Semliki River.

61. *Belenois severina*.

Papilio severina, Cramer, Pap. Exot. iv. pl. cccxxxviii. G, H (1782).

♂, Njangabo, 26th April, 4200 feet; ♂ ♀, Kandera and Ngúru, October and November.

62. *Belenois infida*.

Belenois infida, Butler, Proc. Zool. Soc. 1888, p. 78. n. 111.

♂, Kiriamo, 16th May, 1889; Mikesse, Ussagara, 29th November.

Six males were obtained, five of them at Kiriamo; the variation noted in the females extends to a less extent to the males.

63. *Belenois lordaca*.

Pieris lordaca, Walker, Entom. v. p. 48.

♂ ♀, Kandera and Ngúru, October and November.

64. *Belenois gidica*.

Pieris gidica, Godart, Enc. Méth. ix. p. 131. n. 37 (1819).

Mikesse, Ussagara, 29th November.

65. *Nepheronia Buquetii*.

Callidryas Buquetii, Boisduval, Sp. Gén. i. p. 607. n. 1 (1836).

♂ ♀, Kandera and Ngúru.

66. *Papilio corinneus*.

Papilio corinneus, Bertoloni, Mem. Bolog. 1849, p. 9, pl. i. figs. 1-3.

Kandera and Ngúru.

67. *Papilio similis*.

Papilio similis, Cramer, Pap. Exot. i. pl. ix. B, C (1775).

Kandera.

68. *Papilio porthaon*.

Papilio porthaon, Hewitson, Ex. Butt. iii. Pap. pl. vii. figs. 21, 22 (1865).

Mikesse, Ussagara, 29th October, 1889.

69. *Papilio nyassæ*.

Papilio nyassæ, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xix. p. 459 (1877).

♂ ♀, Mikesse, Ussagara, 29th October; Kandera, in October 1889.

70. *Papilio demoleus*.

Papilio demoleus, Linnæus, Mus. Lud. Ulr. p. 214 (1764).

Waramba village; Njangabo, 4200 feet, 29th April and 4th May; Kissakha, 16th June; Kasari, 13th July; Gombe ja Ikungu, 19th October; Msaka, 22nd October; Masvéa, Ugógo, 8th November; Muini, Ussagara, 18th November; Kandera and Ngúru, October and November.

Hesperiidæ.

71. *Hesperia forestan*.

Papilio forestan, Cramer, Pap. Exot. iv. pl. cccxci. E, F (1782).

Kandera in October.

72. *Ceratrichia*?, sp.

A single much-worn and damaged example of a species apparently belonging to this genus.

Kandera.

HETEROCERA.

Agaristidæ.

73. *Eusemia indecisa*, sp. n.

Allied to *E. africana*; differing above in the subapical oblique band being broader, ovate, and not notched internally; the external border of secondaries less sharply angulated; the first black band at basal third of primaries on under surface divided into two quadrate spots; the central yellow band immediately beyond it consequently broader; the apical fringe of secondaries ochreous instead of snow-white.

Expanse of wings 67 millim.

Kandera in October.

Two male examples were obtained.

Lithosiidæ.

HYPSINÆ.

74. *Egybolia Vaillantina*.

Phalena Vaillantina, Stoll, Suppl. Cram. Pap. Exot. v. p. 142, pl. xxxi. fig. 3.

One example from Kandera.

Polydesmidæ.

75. *Polydesma*, sp.

A worn and broken specimen from Masvéa, Ugógo, 8th November, 1889.

Ommatophoridæ.

76. *Cylogramma fluctuosa*.

Phalæna-Noctua fluctuosa, Drury, Ins. Exot. ii. p. 24, pl. xiv. fig. 1.

Two worn specimens from Kandera.

77. *Hypopyra capensis*.

Hypopyra capensis, Herrich-Schäffer, Lep. Exot. figs. 121, 122.

Two worn specimens from Kandera.

Pyralidæ.

78. *Zebronia podalirialis*.

Spilomela podalirialis, Guénéé, Delt. et Pyral. p. 231. n. 274.

♂ ♀, Njangabo, 4200 feet, 24th April, 1889.

79. *Cadarena sinuata*.

Phalæna sinuata, Fabricius, Ent. Syst. iii. p. 203. n. 295.

Second camp in Usamba, 24th May, 1889.

Macariidæ.

80. *Macaria incessaria*?

Tephрина incessaria, Walker, Lep. Het. xxiii. p. 962. n. 31 (1861).

One imperfect example from Mpwapwa, Ussagara, 12th November.

It is impossible to be certain of the identification of this moth, as the markings are partly obliterated; but if not identical with *M. incessaria*, it must be very closely related to it.

V.—Notes on the Synonymy of some Species of Scolopendridæ, with Descriptions of new Genera and Species of the Group. By R. I. POCOCK, of the British Museum (Natural History).

[Plate IV.]

On *Scolopendra Gervaisiana* and *Scopoliana*, Koch.

Upon looking into the synonymy of the North-African species of *Scolopendra* I find that much confusion has existed as to the identity of the two mentioned under the above heading. In 1841, in vol. iii. of Wagner's 'Reisen in Algier,'